(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 24 August 2006 (24.08.2006)

(10) International Publication Number WO 2006/088267 A1

- (51) International Patent Classification: *G06F 17/10* (2006.01)
- (21) International Application Number:

PCT/KR2005/000431

(22) International Filing Date:

18 February 2005 (18.02.2005)

(25) Filing Language:

Korean

(26) Publication Language:

English

(30) Priority Data: 10-2005-0012890

16 February 2005 (16.02.2005) KR

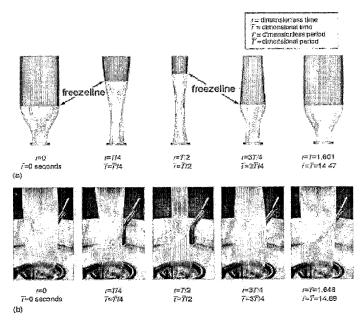
- (71) Applicant (for all designated States except US): KO-REA UNIVERSITY INDUSTRY AND ACADEMY COOPERATION FOUNDATION [KR/KR]; c/o Korea University, 1, Anam-dong 5 ga, Seongbuk-gu, Seoul 136-701 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): HYUN, Jae-Chun [KR/KR]; 43-105, Hanyang Apt., Apgujeong-dong, Gangnam-gu, Seoul 135-110 (KR). JUNG, Hyun-Wook [KR/KR]; 240-30, Guui 1-dong, Gwangjin-gu, Seoul 143-824 (KR). SONG, Hyun-Seob [KR/KR]; 9-403, LG Chem. Ltd. Sawon Apt., Doryong-dong, Yuseong-gu,

Daejeon 305-340 (KR). KIM, Hyun-Chul [KR/KR]; 713-1003, Byeolbinmaeul, Hwajeong, 2-dong, Deogyang-gu, Goyang-si, Gyeonggi-do 412-739 (KR). LEE, Joo-Sung [KR/KR]; 6-308, Geonu Apt., Taepyeong 2-dong, Sujeong-gu, Seongnam-si, Gyeonggi-do 461-734 (KR). SHIN, Dong-Myeong [KR/KR]; 702-1501, Byeolbinmaeul, Hwajeong, 2-dong, Deogyang-gu, Goyang-si, Gyeonggi-do 412-739 (KR).

- (74) Agent: LEE, Duck-Rog; YEiL Patent & Trademark International, YEiLPAT Bldg., 669-17, Yorksam-dong, Kangnam-ku, Seoul 135-915 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: A METHOD FOR SOLVING TRANSIENT SOLUTION AND DYNAMICS IN FILM BLOWING PROCESS



(57) Abstract: The present invention concerns the dynamics and yielding of transient solutions for the film-blowing process. After solving the governing equations that takes into consideration the viscoelasticity and cooling characteristics of the film, a coordinate transformation was done to change the free-end-point problem into a fixed- end-point one. Then finally, by introducing Newton's method along with OCFE (Orthogonal Collocation on Finite Elements), a transient solution for the process was obtained.

WO 2006/088267 A1



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

 as to non-prejudicial disclosures or exceptions to lack of novelty (Rule 4.17(v))

Published:

- with international search report
- with a declaration as to non-prejudicial disclosures or exceptions to lack of novelty

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.